DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

H6NE
Eurocopter Canada Ltd.
BO 105 LS A-3
May 5, 1993
Revision 3

TYPE CERTIFICATE DATA SHEET NO. H6NE

This data sheet which is a part of Type Certificate No. H6NE prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Air Regulations.

Type Certificate Holder. Eurocopter Canada Limited
1100 Gilmore Road
P.O. Box 250
Fort Erie, Ontario
Canada L2A 5M9

Model BO 105 LS A-3 (Normal Category) Helicopter, approved October 1, 1986 (see Note 9)

Engines: 2 Allison Model 250-C28C

Fuel: MIL-T-5624 Grade JP-4 and JP-5
ASTM-D-1655A
ASTM-D-1655A-1
ASTM-D-1655B
(see NOTES 4 and 5)

Installed Engine Limits

Allison Model 250-C28C
(See NOTE 7)

	Output Shaft Torque % (FT-LBS)	Gas Generator Speed - N1 % (RPM)	Output Shaft Speed - N2 % (RPM)	Measured Gas Temp. C° (°F)
Normal Operation				
- Take-off Power (min.)	75 (363)	104 (52980)	102 (6136)	791 (1455)
- Maximum Continuous	72 (344)	104 (52980)	102 (6136)	741 (1365)
One Engine Inoperative				
- Power (2.5 min.)	100 (481)	104 (52980)	102 (6136)	810 (1490)
- Maximum Continuous	90 (432)	104 (52980)	102 (6136)	791 (1455)

See FLM for other limitations including speed and temperature transients.

Rotor Limits

Power off
Maximum 442 rpm (Triple tach. reading 104%)
Minimum 361 rpm (Triple tach. reading 85%)

Power on
Maximum 433 rpm (Triple tach reading 102%)
Minimum 424 rpm (Triple tach reading 100%) above 8000 ft.
Minimum 416 rpm (Triple tach reading 98%) below 8000 ft.
See FLM for transient limits.

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Airspeed Limits	Never Exceed Speed Vne (CAS) - 145 Knots (167 m.p.h.) Decrease Vne with altitude in accordance with FLM Vne for steady autorotation is limited to 90 Knots (104 m.p.h.) or less (See FLM)
C.G. Range	Longitudinal C.G. Limits: Max. forward up to 1800 kg: (3968 lbs.): 3081 mm aft of RB Max. forward up to 2000 kg: (5732 lbs.): 3140 mm aft of RB Max. rearward up to 2600 kg: (5732 lbs.): 3245 mm aft of RB Max. rearward up to 2000 kg: (4409 lbs.): 3395 mm aft of RB Straight Line variation between points given. Lateral CG Limits: 100 mm/3.9 in, left or right of longitudinal plane of symmetry of the helicopter for weights up to 5291 lbs. (2400 kg) 80 mm/3.15 in for weights greater than 5291 lbs. (2400 kg).
Empty Weight C.G. Range	None
Maximum Mass	2600 kg/5732 lbs.
Minimum Crew	1 at 1481 mm to 1681 mm/58.3 to 66.2 in.
Passengers	1 at 1735 mm to 1935 aft RD/68.3 in. to 76.2 in. 3 at 2690 mm aft RD or 4 at 2550 mm aft RD if the optional equipment "Back to Back 4 Seat Bench" (MBB 105-826601) is installed.
Maximum Baggage	Small compartment: 20 kg at 4250 mm aft RD/44.0 lbs. at 167.3 in. aft RD. Cargo compartment: Maximum cargo floor loading is 600/kg/m^2/120 p.s.f. Maximum cargo load is limited by weight and balance considerations.
Fuel Capacity	579 l/153 gal total (570 l/150.5 gal, usable); 477 l/126 gal in main tank at 3221 mm/126.8 in. aft RD and 93 l/24.5 gal in supply tank at 2276 mm/89.6 in. aft RD.
Oil Capacity	Engine Oil: 10.0 l/2.64 gal. total (5.0 l/1.32 gal. at 3294 mm/129.7 in. aft RD for each engine) (See Note 1 for undrainable oil data) Transmission Oil: 13.25 l/3.5 gal. total at 3294 mm/129.7 in aft RD (See Note 1 for undrainable oil data)
Maximum Operating Altitude	20,000 ft. when operating on MIL-T-5624 Grade JP5 or ASTM-D-1655 Jet A, Jet A-1, or MIL-T-5624 Grade JP4 or ASTM-D-1655 Jet B, or alternate fuel (AVGAS Mixture).
Rotor Blade and Control Movements	For rigging information refer to the Model BO 105 LS A-3 Maintenance Manual
Datum	118.1 in., forward of bulkhead No. 7.
Leveling Means	Leveling point on bulkhead No. 7.
Serial Nos. Eligible	A Transport Canada Certificate of Airworthiness endorsed as noted below under "Import Requirements" must be submitted for each individual Rotorcraft for which application for FAA Certification is made (See NOTES 8, 9, 10, 11, and 12).

Certification Basis	FAR 21.29 and FAR 27 effective 1 February 1965 plus Amendments 27-1 through 27-3 plus Special Conditions No. 27.31-EU-6 issued November 8, 1970. For the Model BO 105 LS A-3: The following amendments have been incorporated in the certification basis: 27-5 (27.1195), 27-11 (27.939), 27-12 (27.923 and 27.927) and 27-14 (27.67 and 27.75) Equivalent Safety Findings in Note 6. Effective February 25, 1991 the type design approval is transferred from FAA Type Certificate Data Sheet No. H3EU to Type Certificate Data Sheet No. H6NE. Reference letter dated January 24, 1991 from Transport Canada to the Federal Aviation Administration.
Import Requirements	U.S. Standard Airworthiness Certificate may be issued on the basis of Transport Canada Certificate of Airworthiness for Export signed by an authorized representative of the Minister of Transport, Transport Canada containing the following statement: "The rotorcraft covered by this certificate has been examined, tested and found to comply with the type design approved under Type Certificate H6NE and to be in condition for safe operation".
Equipment	The minimum equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the helicopter for certification. In addition the following items of equipment are required: (a) Engine-out Warning System (light) (b) Outside Air Temperature Indicator (c) Transport Canada-approved Flight Manual
Service Information	MBB Service Bulletins (Technical Information), published for the U.S. Type Design that carry a statement "Approved by Minister of Transport, Transport Canada," may be interpreted as FAA-approved. Available documents for MBB BO 105 LS A-3 Flight Manual: Subsequent to the release of the Transport Canada-approved Flight Manual - third issue, revisions to the earlier issues of the BO 105 Flight Manual have been discontinued. Maintenance and Overhaul Manual, Chapter 11, "AIRWORTHINESS LIMITATIONS;" dated October 13, 1970. Available documents for MBB BO 105 LS A-3. 1) Model BO 105 LS A-3 — Flight Manual: Approved MBB BO 105 LS A-3 Flight manual dated February 25, 1991, or later, Transport Canada approved issue. Maintenance Manual BO 105 LS, "CHAPTER 101-9 AIRWORTHINESS LIMITATIONS" dated June 30, 1986.

NOTES

NOTE 1. Current weight and balance report including list of required equipment and list of equipment included in certificated empty weight and loading instructions when necessary, must be provided for each helicopter at the time of original certification. The certificated empty weight and corresponding center of gravity location must include unusable fuel of 17.6 lbs., at 120 in. aft RD and undrainable engine and transmission oil of zero (0) lb.

NOTE 2. The following placard must be displayed in clear view of the pilot:
"This helicopter must be operated in compliance with the operating limitations specified in the Transport Canada-approved Rotorcraft Flight Manual. The "INSPECTIONS and AIRWORTHINESS LIMITATIONS" section of the Maintenance Manual must be complied with.

In addition, all placards required in the Transport Canada approved Rotorcraft Flight Manual must be installed in the appropriate locations.

NOTE 3. Refer to the Messerschmitt-Bolkow-Blohm Helicopter, Canada Limited, Model BO 105 LS A-3 Maintenance Manual Chapter 101 "Inspection and Airworthiness Limitation" dated June 30, 1986, or later approved issue, for the retirement life limitations of the helicopter parts which are critical from a fatigue standpoint. These values of retirement or service life cannot be increased without FAA approval.

Additional information essential for proper maintenance of the helicopter is contained in the Messerschmitt-Bolkow-Blohm Helicopter, Canada Limited, Model BO 105 LS A-3 Maintenance Manual, dated June 20, 1986.

NOTE 4. For operation below 40°F ambient temperature, all fuel used must contain Phillips PFA-55MB (MIL-I-27686) anti-icing additive in concentrations of not less than 0.035% nor more than 0.15% by volume. Blending this additive into the fuel and checking its concentration must be conducted in the manner prescribed by the Rotorcraft Flight Manual. Eligible with or without glycerine.

NOTE 5. For emergency use, an alternate fuel mixture consisting of 1/3 by volume of 80/87 aviation gasoline and 2/3 by volume of ASTM D 1655 Jet A or A1 aviation turbine fuel may be used at outside air temperatures of 40°F (4°C) or below.

NOTE 6. Equivalent Safety Findings for the Model BO 105 LS A-3:
FAR 27.175 (b) and (c), and FAR 27.927 (b) (2).

NOTE 7. The limits shown are installed limits. For computation purposes 100 percent engine output shaft (N_2) speed is 6016 r.p.m. and 100 percent gas generator speed is 50,942 r.p.m.

NOTE 8. The Model BO 105 LS A-3 is limited to serial number 2001 and up.

NOTE 9. Model LS A-3, serial numbers 2001-2016 were manufactured by Messerschmitt-Bolkow-Blohm GmbH Ltd. Helicopter and Transport Division, D-8000 Munchen 80, under Luftfahrt Bundesamt Type Certificate 3025, and approved under FAR Part 21.29 by the Federal Aviation Administration (FAA), Type Certificate Data Sheet No. H3EU.

NOTE 10. Model LS A-3, serial numbers 2017-2032 were manufactured by MBB Helicopter Canada Limited, Fort Erie, Ontario, under Transport Canada Type Approval H-79.

NOTE 11. Model LS A-3 serial number 2033 and subsequent will be manufactured by MBB Helicopter Canada Limited, Fort Erie, Ontario, under Transport Canada Type Approval H-94.

NOTE 12. Effective February 25, 1991, design responsibility for all BO 105 LS A3 helicopters is transferred from Messerschmitt-Bolkow-Blohm GmbH Helicopter and Transport Division D-8000 Munchen 80, and Luftfahrt Bundesamt to MBB Helicopter Canada Limited and Transport Canada Aviation Group.

NOTE 13. Helicopter serial numbers 2014, 2015, 2016, 2017, and 2018 which have sandfilter system installations (modification number 10-22), part number 105-853181, FAA Flight Manual Supplement No. 10-22, approved December 5, 1988, are acceptable with this Type Certificate Data Sheet No. H6NE

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